

L 08188-67 EWP(o)/EWP(m) WH

ACC NR: AP6032931

SOURCE CODE: UR/0288/66/000/002/0156/0158

AUTHOR: Ishchenko, V. N.; Lisitsyn, V. N.

ORG: Institute of Semiconductor Physics, Siberian Section AN SSSR, Novosibirsk
(Institut fiziki poluprovodnikov, Sibirskogo otdeleniya AN SSSR, Novosibirsk)

TITLE: Generation of ruby at two R-lines

SOURCE: AN SSSR. Sibirskoye otdeleniye. Seriya tekhnicheskikh nauk, no. 2, 1966, 156-158

TOPIC TAGS: laser emission, ruby laser

ABSTRACT: In the luminescence spectrum of a ruby there are observed two strong lines at wavelength of 6943 \AA (R_1 -line) and 6929 \AA (R_2 -line). The intensity and the width of the R_2 -line satisfy the condition for generation at a wavelength of 6922 \AA . However, between the sublevels from which the R-lines start, transfer of energy takes place at a speed of the order of 10^{-7} sec; therefore, the induced radiation at the R_1 -line which appears earlier reduces the population of both levels, and the condition for generation at the R_2 -line cannot be satisfied. The present work used a method involving the introduction into the resonator of a dispersing prism, used in gas lasers for tuning the resonator to a determined wavelength. All the measurements were made with a rose ruby 8 mm in diameter and with a length of 50 mm, with two flash bulbs fed

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by a battery of condensers with a capacitance of 880 microfarads. The distance between the mirrors was 150 cm. In such a resonance generator, generation at the R_1 line appears at a boosting energy of approximately 1 kilojoule. It is assumed that the losses in the resonator are approximately the same for both lines. Generation at the R_2 -line should then appear at a boosting energy of 1.22 kilojoules, if the induced radiation at the R_1 -line is suppressed. A figure, based on the experimental data, shows the dependence of the luminescence power of the ruby on the pumping energy for the R_1 - and R_2 -lines. The conclusion is drawn that for a ruby crystal of good quality, the region of generation at both lines is substantially narrower, and that there is competition between the R_1 and R_2 lines. "In conclusion, the authors thanks G. V. Krivoshechekov for his interest in the work and V. P. Chebotayev for his valuable advice." Orig. art. has: 4 figures.

SUB CODE: 20/ SUEM DATE: 26Dec64/ ORIG REF: 002/ OTH REF: 004

Card 2/2 dda

KIRICHENKO, V.M., inzh.; ISHCHEENKO, V.P., inzh.

Prolonging the life of parts of machinery for processing fused
blast-furnace slags. Prem. stroi. 36 no.12:35-36 D '58.
(MIRA 12:1)

- 1.Yuzhnyy nauchno-issledovatel'skiy institut (for Kirichenko).
- 2.Zaporeshskiy saved shlakevoy pompy (for Ishchenko).
(Slag)

ISCHENKO, V.P., kand.tekhn.nauk; VZOROV, V.V., inzh.; VERTOGRADSKIY, V.A.

Heat transfer in the evaporation of water from a porous wall swept
by air. Teploenergetika 8 no.1:65-72 Ja '61. (MIRA 14:4)

1. Moskovskiy energeticheskiy institut.
(Heat—Transmission)

ISHCHENKO, V.S., inzhener.

More accurate method of calculating massive supports for high pile
gratings. Avt.dor.19 no.8:18-19 Ag '56. (MIRA 9:10)
(Bridges, Pile)

ISHCHENKO, V.S.

First results of the study of the spore-pollen
composition of Mesozoic sediments in the northern part
of the Pechora Depression. Mat. po geol. i pol.
iskop. Sev.-Vost. Evrop. chasti SSSR. no.2:17-23
'62. (MIRA 15:11)
(Pechora Depression—Palynology)

ISHCHENKO, V.S.

Is it necessary to fumigate slightly infected pea seeds? Zashch.
rast. ot vred. i bol. 7 no.3:36 M- '62. (MIRA 15:11)

1. Glavnyy agronom otдела zashchity rasteniy Cherkasskogo
oblastnogo upravleniya sel'skogo khozyaystva.
(Cherkassy Province--Peas--Diseases and pests)
(Seeds--Disinfection)

BERGER, G.S.; BUZUNOV, V.A.; KISLITSYNA, L.G.; ISHCHENKO, V.V.

Device for determining sodium oleate adsorption on mineral powders
under grain floating conditions. TSvet. met. 38 no.2:16-17 F '65.
(MIRA 18:3)

PAPORT, Ya.L.; ISHCHENKO, V.V.

Immunomorphology of rheumatic fever. Grud. khir. 2 no.6:7-14
N-D '60. (MIRA 14:1)

1. Iz Instituta grudnoy khirurgii (dir.prof. S.A.Kolesnikov;
nauchnyy rukovoditel' - akademik A.N.Bakulev) AMN SSSR. Adres
avtorov: Moskva, Leninskiy prospekt, d.8, Institut grudnoy
khirurgii AMN SSSR.

(RHEUMATIC HEART DISEASE)

SERGEYEV, V.M., kand.med.nauk; KAZNIN, V.P.; GOLONZKO, R.R.; ISHCHEV,
V.V.

Treatment of complications following prosthetic filling of the
residual pleural cavity with polyurethane sponge. Khirurgiia
no.1:77-83 '62. (MIRA 15:11)

1. Iz Instituta serdechno-sosudistoy khirurgii (dir. - prof.
S.A. Kolesnikov; nauchnyy rukovoditel' - akad. A.N. Bakulev)
AMN SSSR.

(LUNGS—SURGERY) (URETHANES—THERAPEUTIC USE)

GENIN, N.M.; PETROSYAN, M.V.; ISHCENKO, V.V.

Role of rheumatic fever in the development of a relapse of mitral stenosis. Kardiologiya 3 no.5:15-17 S-O '63. (MIRA 17:9)

1. Iz kafedry serdechno-sosudistoy khirurgii (zav. - prof. S.A. Kolesnikov) Tsentral'nogo instituta usovershenstvovaniya vrachey, biokhimicheskoy laboratorii (zav. - prof. Ye.P. Stepanyan) i laboratorii patomorfologii (zav. - prof. Ya.L. Rapoport) Instituta serdechno-sosudistoy khirurgii (dir. - prof. S.A. Kolesnikov, nauchnyy rukovoditel' - akademik A.N. Bakulev) AMN SSSR.

BUKHARIN, V.A.; KHOAN SYU-CHZHUN; ISHCHENKO, V.V. (Moskva)

Unusual form of developmental defect of the atrioventricular
canal. Grudn. khir. 5 no.4:86-88 J1-Ag'63 (MIRA 17:1)

1. Adres avtorov: Moskva V-49, Leninskiy prosp., d.8. Insti-
tut serdechno-sosudistoy khirurgii AMN SSSR.

GRISHAKOV, B.Ya.; ISHCENKO, V.Ya.; MAL'TSEV, V.F.

Kilning green brick in yards. Suggested by B.IA.Grishakov,
V.IA.Ishchenko, V.F.Mal'tsev. Rats.i izobr.predl. v stroi.
no.10:57-59 '59. (MIRA 12:11)

1. Po materialam zavoda "Krasnyy Aksay" Rostovskogo-na-Donu
sovnarkhosa.

(Brickmaking)

ISHCHENKO, Ya., inzh.

Erecting an earth dam with heavy self-propelled scrapers. Transp. stroi.
15 no.5:5-7 My '65. (MIRA 18:7)

ISHCHENKO, Ya.P.; GRITSYK, V.I.

Leveling filled ground with a pneumatic roller. Mekh. stroi.
18 no.5:20-21 My '61. (MIRA 14:7)
(Road rollers)

GRITSYK, V. I., inzh.; ISHCHENKO, Ya. P.

Choosing a method of protecting the earth roadbed from erosion.
Transp. stroi. 13 no.3:8-10 Mr '63.

(MIRA 16:4)

(Railroads—Earthwork) (Soil binding)

GRITSYK, V.I., inzh.; ISHCHENKO, Ya.P., inzh.

Terracing the banks of the roadbeds of railroads. Transp. stroi. 13
no.7:4-5 JI '63. (MIRA 16:9)

(Terracing) (Railroads--Earthwork)

GRITZYK, V.I., inzh.; ~~ISHCHENKO~~, Ya.P., inzh.

Design of branch lines along the trunk-line on the basis of the
standard pattern permanent lines. Trans. sheet. 13 no. 1729-21
D⁶³ (MIRA 1747)

GRITSYK, V.I., inzh., ISHCHENKO, Ya.P., inzh.

Compactness of soil on the slopes of roadbeds.
Transp.stroi. 14 no.12,36-38 D '64.

(MIRA 19:1)

RYMOV, A.I., inzh.; ~~ISHCHENKO, Ye.F., inzh.~~

Methods for determining elementary reflections of parabolic reflectors.
Svetotekhnika 4 no.10:12-16 0 '58. (MIRA 11:10)

1. Vsesoyuznyy svetotekhnicheskiy institut.
(Projectors)

ISHCHENKO, YE. S., LIKHACHEVA, YE. M.

Typhoid Fever

Care of typhoid fever patients. Med.sestra No. 5, 1952.

Monthly List of Russian Accessions, Library of Congress, August 1952. UNCLASSIFIED.

BUDNITSKIY, Abram Borisovich; KALNIBOLOTSKIY, Maksim Leont'yevich;
NEDZEL'SKIY, Stanislav Il'ich; Prinsipali uchastiye: ISHCHENKO,
Yu.D.; BLAGOY, V.S.; NEMCHUNOVA, O., red.; MATUSEVICH, S.,
tekhn. red.

[Electric equipment of thermal electric power plants] Elektro-
oborudovanie teplovykh elektricheskikh stantsii. Kiev, Gos.
izd-vo tekhn. lit-ry USSR, 1961. 363 p. (MIRA 14:9)
(Electric power plants—Equipment and supplies)

SAFARYAN, M.K., kand.tekhn.nauk; ISHCHENKO, Yu.K., inzh.

Tests for the temperature effect on rectangular, reinforced
concrete tanks buried below ground level. Stroi.truboprov. 3
no.11:23-28 N '58. (MIRA 11:12)
(Tanks--Testing) (Thermal stresses)

SAFARYAN, Misak Kapatetovich, kand. tekhn. nauk; ISHCHENKO, Yuriy
Konstantinovich, inzh.; MESROPYAN, Nikolay Mushegovich, inzh.;
RAZUMOVSKAYA, T.Ya., red.; DEMIDOV, Ya.F., tekhn. red.

[Study of the behavior of rectangular reinforced concrete tanks
under the effect of temperature change; general conclusions
from experience in design, construction, and operation] Issledo-
vanie raboty priamougol'nykh zhelezobetonnykh rezervuarov pri
temperaturnykh vozdйствиakh; obobshchenie opyta proektirova-
niia, stroitel'stva i ekspluatatsii. Moskva, VNIIST Glavgaza
SSSR, redaktsionno-izdatel'skii otdel, 1961. 166 p.
(MIRA 15:9)

(Tanks) (Concrete construction)

CHOLOYAN, G.S, inzh.; ISHCHENKO, Yu.K., inzh.

Geodetic method of detecting deviations in the body of a tank.

Stroi. truboprov. 7 no.11:21-22 N '62.

(MIRA 15:12)

(Tanks)

(Theodolites)

ISHCHENKO, Yu.K.: ARZUNYAN, A.S.; VEREVKIN, S.I.

Increase the dependability of steel tanks. Stroj. truboprov.
8 no.11:14-16 '63 (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov (for Ishchenko). 2. Odesskiy neftyanoy tekhnikum (for Arzunyan). 3. Gosudarstvennyy institut po proyektirovaniyu spetsial'nykh sooruzheniy promyshlennogo stroitel'stva (for Verevkin).

SPERIDONOV, V.V., kand. t. nat. nauk; ISHCHENKO, Yu.I., inzh.

All-purpose gauge for lengths ranging from 300-1300 mm. Trudy
VNIIST no.15:358-359 '63. (MIRA 17:11)

S/135/60/000/005/006/009

A115/A029

AUTHORS: Budnik, N.M.; Zolotykh, V.T.; - Candidates of Technical Sciences;
Gufan, R.M.; Ishchenko, Yu.L.; Sapov, P.M.; - Engineers

TITLE: Automatic Arc-Spot Riveting 18

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 5, pp. 32 - 35

TEXT: Flux welding used in the manufacture of agricultural machines is carried out manually in most cases. The apparatus 9PCM-8 (ERSM-8) designed by Rostsel'mash (Rostov Agricultural Machine Plant) has several drawbacks. A new apparatus was developed by the plant, the distinguishing feature of which is a new welding head. A diagram of the head is shown. The new machine equipped with this head makes it possible to facilitate welding, to increase the productivity, to reduce the consumption of electric energy and electrode wire. A detailed description of the operation principle is given. The new welding head can be used as basis for developing welding machines with program control and also of universal and specialized multielectrode machines. ✓

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1.2300 also 1573

22013
S/135/61/000/006/002/008
A006/A106

AUTHORS: Ishchenko, Yu. L., and Dyurgerov, N. G., Engineers

TITLE: Fusion of electrode and self-adjustment of arc in welding with
perio periodic short-circuiting of the arc-gap

PERIODICAL: Svarochnoye proizvodstvo, no 6, 1961, 9-12

TEXT: Welding with 1 - 3 mm electrode wire in CO₂, developed by the Institute of Electric Welding imeni Ye. O. Paton, is a process characterized by frequent short-circuiting of the arc gap. The advantages of this process are the use of low current values and a sharp reduction of splashing at optimum electric parameters of the welding circuit. Therefore the process is particularly promising for gas-electric welding. There is not, however, sufficient information available on the course of the process and on the self-adjustment of the arc. Experience has shown that an investigation of the effect of dynamical properties of the power supply on the nature of the process is of considerable importance. A necessary condition for the stability of the self-adjustment circuit during the absence of excitation is the equality of the feed and fusion rates of the electrodes $V_n = V_e$. During welding with periodic short-circuiting of the arc gap,

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A006/A106

X

Fusion of electrode and self-adjustment ...

the current and the electrode fusion rate are constantly changing, and become somewhat stable only at the end of cycle (Fig. 1). The dependence of the fusion rate of the electrode on current and time during the described process was studied by oscillogramming and simultaneous high-speed filming, performed under the supervision of Candidates of Technical Sciences V. T. Zolotykh and N. M. Budnik. The analytical dependence of the arc length and the frequency of short-circuiting on the time constant of the welding current and inductivity are given. (Figs. 2, 3, 4). It was found that the process with periodic short-circuiting of the arc gap takes place when the low voltage of the power source does not assure the passage through the arc of current sufficiently high to assure the fusion of the electrode at a rate equal to its feed. The fusion rate of the electrode is practically inertialess at any changes of the arc current. The fusion rate changes inertialess even at 20 amp/mm² current density. In the given case the mean density of current was 45 amp/mm² at 20 mm electrode throat and 2 mm diameter. Inductance L and time constant T of the welding circuit exert a considerable effect on the stability of the process and on splashing of the metal. The energy stored in the inductance during the short circuit assures intensified fusion of the electrode during the initial period of burning of the arc. At low inductance values its effect on the mean fusion rate during the energy efficiency increases. The value of the time

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Fusion of electrode and self-adjustment ...

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A006/A106

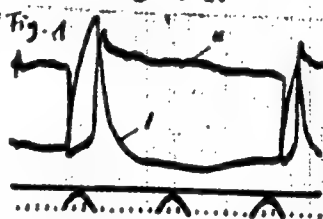
constant of the welding circuit affects the frequency of short circuits and the maximum length of the arc, predetermining the stability of the process. (Reference 2: Zolotikh, V. T.; Gufan, R. M.; Dyurgerov, N. G., and Ishchenko, Yu. L. "The effect of inductance in a d-c arc circuit on welding in carbon dioxide" "Svarochnoye proizvodstvo, no. 4, 1960"). It is stated that the process with intermittent short-circuiting of the arc gap can also be employed for submerged arc welding. There are 4 figures and 4 Soviet-Block references.

ASSOCIATION: Rostovskiy-na-Donu institut sel'khoz mashinostroyeniya (Rostov-on-Don Institute of Agricultural Machine Building)

Figure 1:

Oscillogram of current and arc voltage during welding in carbon dioxide: $U_d = 20$ v; $V_n = 1.7$ m/min.

Figure 1:



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S/135/62/000/001/002/007
A004/A101

AUTHORS: Dyurgerov, N.G., Ishchenko, Yu.L., Engineers
TITLE: On the stability of the CO₂-shielded short-arc welding process
PERIODICAL: Svarochnoye proizvodstvo, no. 1, 1962, 5 - 7

TEXT: The authors report on investigations of the basic conditions of a stable cycle of the short-arc welding process of low-carbon steel in CO₂ gas to establish the effects of the voltage and electrode feed on the course of the process. These investigations were carried out under the supervision of N.M. Budnik and V.T. Zolotikh, Candidates of Technical Sciences. It is pointed out that, for the complete characteristic of the static and dynamic properties of the welding circuit, it is necessary to know the idle-run voltage (U_{idle}), inductance of the welding circuit (L) and the active resistance of the welding circuit (R), determining the current variation curve. The short-arc welding process is stable if the following conditions are satisfied: 1) the arc voltage should have such a magnitude that the steady value of the arc current be smaller than the current necessary for the fusion of the electrode at a rate equal to its feed rate. 2) The presence of a definite inductance in the welding circuit is

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electrode

On the stability of the ...

S/135/62/000/001/002/007
A004/A101

feed rate, the following three variants of the welding process exist: by short-circuiting the arc gap, continuous burning of the arc and periodic discontinuities of the arc. When short-arc welding is carried out with electrode wire 1.6, 2 and 3 mm in diameter, the most satisfactory results are obtained at relatively low welding conditions. There are 4 figures, 3 tables and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Rostovskiy-na-Donu institut sel'khoz mashinostroyeniya (Rostov-on-Don Institute of Agricultural Machine Building)

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DYURGEROV, N.G.; RYLOV, L.A.; ISHCHENKO, Yu.L.; TRACHENKO, V.A.;
BARILOV, O.A.; ZHIDKOV, A.I.; GRIGOR'YEV, G.G.

Using GSR-9000 generators for submerged arc welding.

Mashinostroitel' no.9:33 S '62.

(MIRA 15:9)

BUDNIK, N.M.; DYURGEROV, N.G.; ISHCHENKO, Yu.L.

Possibility of hard facing in a cooling fluid without electrode vibration. Avtom. svar. 15 no.9:47-50 S '62. (MIRA 15:9)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashinostroyeniya.

(Hard facing)

DYURGEROV, N.G.; ISHCHENKO, Yu.L.; GRIGOR'YEV, G.G.

A new efficient multiple-post welding system. Trakt. 1. sel'khoz mash.
31 [1.e.32] no.11:44-45 N '62. (MIRA 15:12)

1. Rostovskiy institut sel'skokhozyaystvennogo mashinostroyeniya
(for Dyurgerov, Ishchenko). 2. Rostovskiy zavod sel'skokhozyaystvennogo
mashinostroyeniya (for Grigor'yev).
(Agricultural machinery—Welding) (Electric welding)

DYURGEROV, N.G., inzh.; ISHCENKO, Yu.L., inzh.; ZOLOTYKH, V.T., kand.
tekhn.nauk; SAPOV, P.M., inzh.; GRIGOR'YEV, G.G., inzh.; ZHIDKOV,
A.I., inzh.; BARILOV, O.A., inzh.

Multiple-operator automatic welding under flux without ballast
rheostats. Svar. proizv. no.4:40 Ap '63. (MIRA 16:5)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo
mashinostroyeniya (for Dyurgerov, Ishchenko). 2. Rostovskiy zavod
sel'skokhozyaystvennogo mashinostroyeniya (for Sapov, Barilov,
Grigor'yev, Zhidkov).

(Electric welding--Equipment and supplies)

ISHCHENKO, Yu.L., inzh.; DYURGEROV, N.G., inzh.

Mechanism of the periodical closing of the arc gap and the
stability of welding with a short arc. Svar. proizv. no.9:
10-13 S '63. (MIRA 16:10)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo
mashinostroyeniya.

ISHCHENKO, Yu.L., inzh. [deceased]

Calculating the parameters of a two-position power supply
system for welding arcs. Svar.proizv. no.12:13-16 D '65.
(MIRA 18:12)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo
mashinostroyeniya.

ISHCHENKO, Yuriy Nikolayevich; ALEKSANDROVSKIY, A., red.; GATNENKO, A.,
red.; GABIL'CHANOVA, G., tekhn. red.

[Reinforced-concrete structures] Zhelezobetonnye konstruktsii.
Kiev, Gosstroizdat USSR, 1963. 286 p. (MIRA 16:7)
(Reinforced concrete construction)

SHPIL'OVII, M.I. [Shpyl'ovyi, M.I.]; ISHCHENKO, Y.O. [Ishchenko, I.O.], inzh.

Give the green light to recent developments. Mekh. sil'. hosp.
14 no.11:6-8 N'63. (MIRA 17:2)

1. Upravlyayushchiy Nemirovskim rayonnym ob'yedineniyem
"Sil'gospstekhnika" Vinnitskoy oblasti (for Shpil'oviy).

ACC NR: AP7001838

SOURCE CODE: UR/0135/66/000/012/0014/0015

AUTHOR: Popenko, V. S. (Engineer); Bukarov, V. A. (Engineer); Ishchenko, Yu. S. (Engineer)

ORG: none

TITLE: Programming the regime of pulsating-arc welding of tubes

SOURCE: Svarochnoye proizvodstvo, no. 12, 1966, 14-15

TOPIC TAGS: *steel, metal tubes,* automatic programming, thermal analysis method, pulse welding, arc welding / 1Kh18N9T steel

ABSTRACT: The energy introduced into the metal in order to accomplish its uniform fusion may be regulated in two ways: by varying the pulse duration or by altering the welding current intensity. Programming with respect to welding current requires high-power regulation. Hence programming with respect to pulse duration is simpler and more reliable. The design and calculation of the welding arc cycle for the pulsating-arc welding of tubes reduce to the determination of: a) number of welding impulses (weld spots) required for the continuous welding of a tube of a given diameter and thickness; b) duration of pause between impulses; c) duration of

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ACC NR: AP7001838

impulse as a function of the tube material and dimensions. Point a) is determined as a function of the outside diameter of the tube, the outside diameter of the weld spot and the coefficient of overlap of weld spots. As for the pause between impulses, it must be the shortest possible so as to maximize the productivity of the process, yet sufficiently long to assure the solidification of the molten metal in the weld puddle so there would be no flow of molten metal from one weld puddle to the next. As for the duration of the impulse, it must be tailored to the time required to melt the puddle material. It is shown that with the aid of a family of curves of the time dependence of temperature, on employing the graphic method of plotting the thermal cycle (Fig. 1), it is possible to compile a program for the variation of the time required to reach melting point for every individual weld spot during the seam welding. Experimental formulas for determining these factors are presented, and they are used to calculate the pulsating-arc cycle for the welding of non-swivel joints of 22x3 mm tubes of 1Kh18N9T steel, with a welding current of 70 a and voltage of 10 v, at a welding rate of 6 m/hr. The theoretical findings thus obtained were checked by welding specimens of these tubes by means of an ATV-15-40 automatic welding machine in accordance with the experimentally selected program, and were found to be in agreement with the experimental findings. Orig. art. has: 2 figures, 3 tables.

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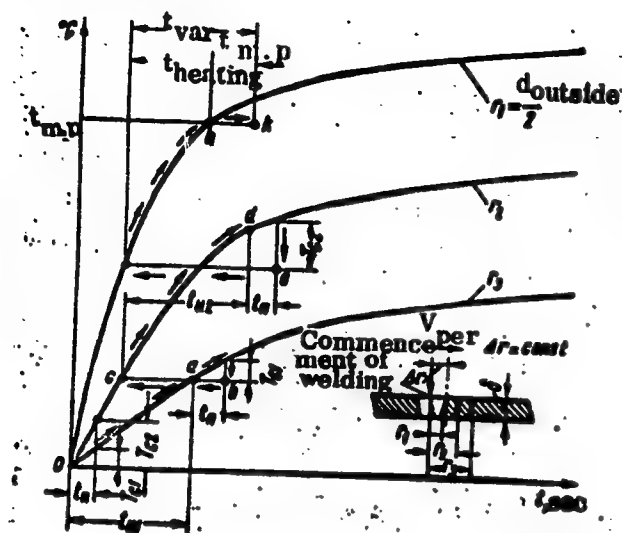


Fig. 1. Diagram for determining the heating time and pulse length as functions of temperature curves. The arrows and letters indicate the sequence of construction of the thermal cycle of the weld spot

SUB CODE: 13, 11/ SUBM DATE: none

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S/135/61/000/006/001/008
A006/A106

1.2300 also 1573

AUTHORS: Varlamov, I. V., and Ishchenko, Yu. S., Engineers

TITLE: Programing the conditions of argon-arc welding of pipes with non-consumable electrodes

PERIODICAL: Svarochnoye proizvodstvo, no. 6, 1961, 5-6

TEXT: In automatic argon-arc welding of stationary pipe butts of 8-26 mm diameter and over 0.75 mm thick walls fusion over the whole perimeter of the joint is non-uniform. Uniform fusion can only be achieved by changing the welding conditions according to a given program. An investigation was made to reveal the necessity of programing the conditions in argon-arc butt welding of 8 - 26 mm diameter stainless steel pipes with 0.5 - 2.0 mm thick walls. A method was developed for calculating programing welding conditions. The welding heat cycle was calculated by taking into account the heat transfer in front and at the rear of the heat source. A formula is given to calculate the heat necessary for fusion:

$$0.24 \cdot UI \eta_e \eta_t = v_{\text{weld}} F_{\text{pr}} C_p \gamma \left\{ T_{\text{fus}} - [T(r, x) \psi_2(\tau, \rho) + \sum_{i=1}^n T_1(r_i, t_i)] \right\} \quad (5)$$

where U is the arc voltage; I - arc current; η_e arc eff. the effective arc

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Programing the conditions ...

efficiency; η_{th} - the thermal efficiency of the process; U_{weld} - the welding speed; F_{pr} - the section of weld; γ - the metal density; T_o - the initial metal temperature; T_{fus} - the metal fusion temperature; C_p - the heat capacity; r and x - coordinates of the point in respect to the movable linear concentrated source; t_1 - the time from the beginning of operation of the source; r_1 - the distance from the given point to the i-source. The effect of preheating is taken into account to correct the welding conditions in respect to current and speed. In programing of current the speed remains constant, while the current is constant in programing of speed. Program curves are plotted (Fig. 1) according to current and speed, calculated by a number of points in a given order. The program curves are divided into 3 sections: section I, the initial section of the curve is predetermined by the heat saturation period, and the heat emanates only in front of the source; section II - the middle section where the heat emanates in front of the source; section III - the end of curve, where heat emanates in front and at the rear of the source. A method is given to determine the necessity of programing at the front and rear end of the weld, by comparing the time of fusion with the heat saturation time and taking into account the heat emanated at the rear of the heat source. The program curves were checked by welding 1X18H9T (1Kh18N9T) steel pipes (12 x 2; 16 x 1; 16 x 2; 10 x 1.5 mm) on a C-7 (S-7) automatic machine. The results obtained show that programing of

Card 2/5

22012

S/135/61/000/006/001/008
A006/A106

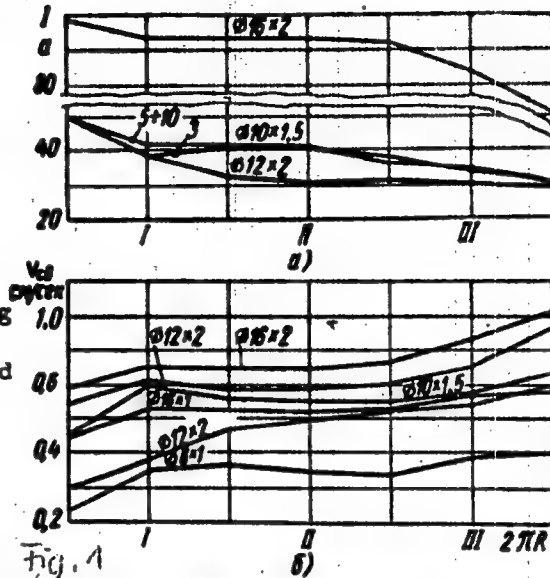
Programing the conditions ...

the conditions for welding small-diameter pipes, produces high-quality joints. The method of approximate rough calculation to determine the necessity of programing conditions for welding seams at their front and rear ends, and also the approximate calculation of the program, yields satisfactory results. An experimental model of a programing device is suggested assuring the stepped change of the output impedance, controlled from a built-in photo-electric transmitter. In programing of current the device is connected to the basic circuit of the controlling triodes and in programing of speed, to the electric motor armature circuit. The unit assures programing of welding conditions and reliable operation during welding process.

Figure 1:

Program curves of conditions for welding
Card 3/5

Figure 1:



Programing the conditions ...

1Kh18NgT steel pipes: a - programing of welding current; b - programing of welding speed.

Figure 6:

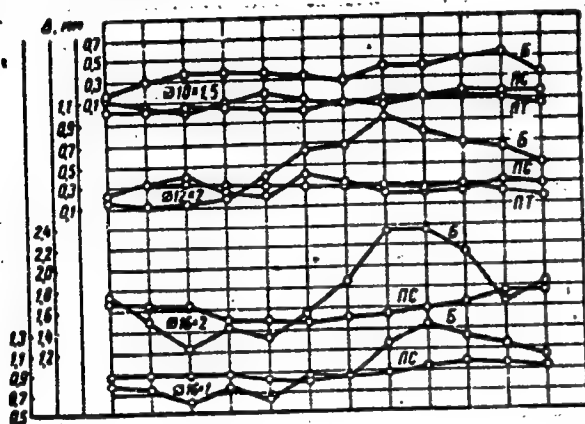


Figure 7:

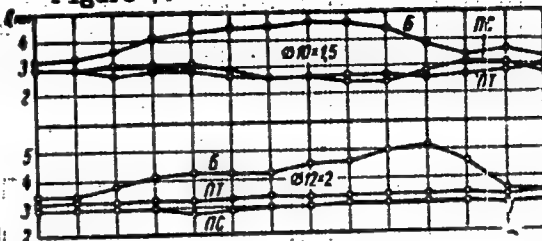


Figure 6:

Changes in the fusion depth (reinforcement inside the pipe) over the seam length. Б (B) - without programmed conditions; ПТ (PT) - with programing of current; ПС (PS) - with programing of welding speed.

Figure 7:

Changes in the joint width over its length: Б - without programmed conditions; Card 4/5

Programing the conditions ...

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A006/A106

PT - with programing of current; PS - with programing of speed.
There are 2 tables, 8 figures and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc (Wilkinson, B., Milner, D. R., Heat Transfer from Arcs, "British Welding Journal" no. 2, 1960)

Card 5/5

N L 11542-66 EWT(m)/EWA(d)/ENP(t)/ENP(z)/ENP(b) MJW/JD/WB

ACC NR: AP6000616

SOURCE CODE: UR/0135/65/000/012/0015/0018

AUTHOR: ^{44,55}Ishchenko, Yu. S. (Engineer); ^{44,55}Grinenko, V. I. (Engineer); ^{44,55}Pavlov, Yu. S. (Engineer)

ORG: none

TITLE: Pulse argon-arc welding of nonrotating tube seams of Kh18N10T type steel using infusible electrodes ^{44,55,14}

SOURCE: Svarochnoye proizvodstvo, no. 12, 1965, 16-18

TOPIC TAGS: pulse welding, arc welding, welding electrode, seam welding, steel, metal tube, solid mechanical property, corrosion resistance

ABSTRACT: High quality welded seams can be obtained by arcing the nonrotating joints of tubes made from Kh18N10T steel with wall thicknesses up to 6 mm. A cyclogram is given in which weld current is shown as a function of time. The criterion chosen for weld quality was the general seam formation, including crater depth. Tungsten electrodes of varying truncated diameter were used and the influence of this diameter on crater depth was shown; in general, the depth decreased with increase in truncated diameter (0.5 to 2.0 mm). The 1.5 to 2.0 mm truncated diameters worked best. Crater depth was also plotted as a function of welding current. The depth decreased with current which ranged from 10 to 50 amp. However, the length of the welded junction remained constant with welding current. Due to slight changes in the assembly, the

Card 1/2

UDC: 621.791.753.93:621.643.2/.3:669.15-194

L 11542-66

ACC NR: AP6000616

shifting of edges occurred from the true vertical. The displacements of the electrode and the seam edges are given for tubes of varying wall thicknesses: the displacement of the edges ranged from 2 to 3 mm while that of the electrodes ranged between 1.5 to 2 mm. Welding data for tube dimensions of 60 x 4, 57 x 5 and 108 x 6 mm are given in tabular form. Samples of weld made by the pulse-arc method and continuous welding are compared, no difference being noted for ordinary mechanical properties or bend angle. Macrostructural and x-ray examination revealed absence of porosity, cracks, lack of fusion and other discontinuities in the metal. Microstructures of various portions of the welded region are also shown. The basic structure studied was a small-grained, austenitic-pearlitic matrix. In the heat affected zone, there was growth of the austenite grains and the weld region had a cast austenitic-pearlitic structure. The effect of pressing during the welding operation was to decrease the ferrite content. Corrosion test results (GOST 6032-58) revealed that the pressed and unpressed welded seams were equally resistant to corrosion attack. Orig. art. has: 7 figures, 2 tables.

SUB CODE: 11/3/

SUBM DATE: 00/

ORIG REF: 004/

OTH REF: 000

HW
Card 2/2

L 16521-66 EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k) JD/HM
ACC NR: AP6006179

(N) SOURCE CODE: UR/0135/66/000/002/0007/0009

AUTHOR: Yerokhin, A. A. (Doctor of technical sciences); Ishchenko, Yu. S. (Engineer)

ORG: none

TITLE: Regulation of the degree of melting in arc welding nonrotating tube seams

SOURCE: Svarochnoye proizvodstvo, no. 2, 1966, 7-9

TOPIC TAGS: arc welding, alloy steel, welding equipment, welding electrode, metallographic examination

ABSTRACT: Means of controlling melting during arc welding of 1Kh19N10T steel were studied and an apparatus which produced quality seam welds in nonrotating tubes by varying the internal pressure as a function of the torch position was designed. The weight of the molten pool was equilibrated by internal gas pressure which varied from 70 mm H₂O for the vertical overhead position and -20 mm H₂O for the underneath position. The pressure was regulated by a separate block mechanism. Schematic diagrams are shown of the removable pressure chamber, the regulating mechanism and the welding cycle. Formulas for the welding force acting on the wall surface in the

Card 1/2

UDC: 621.791.75:621.9-462

L 16521-66

ACC NR: AP6006179

joint are given. Experimental values of the welding force were obtained for 1Kh19N10T steel tubes of 3 to 8 mm thickness and 108 mm diameter as a function of the weld angle (α). Macrostructures of the welded tube (6 mm thick) are shown for different values of α ranging from 0 to 270° for currents of 200-210a. The electrode distance to the molten region for the 6 mm thick and 108 mm diameter tube was given as a function of α for ordinary welding methods and for the method described above. Only with internal pressure regulation was the distance constant: 0.2 mm under proper pressure and 0.6 under 5 mm H₂O less. For ordinary arc welding the electrode distance varied from 1.8 mm at $\alpha = 0^\circ$ to a low of -0.2 mm at 150°. The internal pressure method was recommended for metals with wall thicknesses between 3 to 8 mm; beyond this range, quality was found to drop. Orig. art. has: 7 figures, 7 formulas.

SUB CODE: 13/

SUBM DATE: 00/

ORIG REF: 002/

OTH REF: 000

TB
Card 2/2

ACC NR: AT7007346

(A)

SOURCE CODE: UR/0000/66/000/000/0043/0047

AUTHOR: Volchenko, V. N.; Ishchenko, Yu. S.

ORG: None

TITLE: On methods of programmed control for argon-arc welding of nonrotating pipe joints

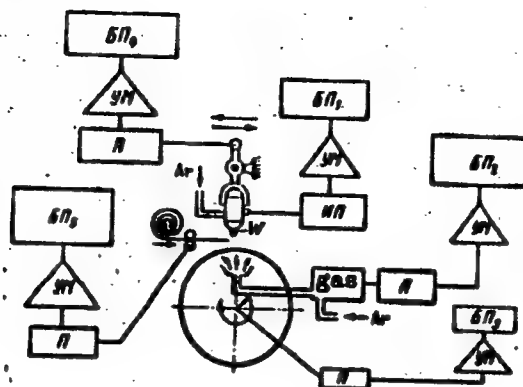
SOURCE: Soveshchaniye po avtomatizatsii protsessov mashinostroyeniya. 4th, 1964. Avtomatizatsiya protsessov svarki i obrabotki davleniyem (Automation of welding and pressure treatment processes); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1966, 43-47

TOPIC TAGS: industrial automation, argon, inert gas welding, automatic control equipment, welding technology, automatic welding

ABSTRACT: The authors discuss various methods of programmed control applicable to argon-arc welding with a tungsten electrode for joining nonrotating sections of pipe. A simple program includes blowing argon into the joint for a given length of time, switching on the oscillator and striking the main arc for localized heating of the joint, switching on the drive motor for rotating the machine and making the working section of the seam with welding current and speed held constant, overlapping the ends of the seam and a final blast of argon. The problem of compensation for temperature distribution is discussed. A generalized block diagram for possible methods of programmed control of argon-arc welding is shown in the accompanying figure. Orig. art. has: 4 figures, 6 formulas.

Card 1/2

ACC NR: AT7007346



БП—programming units; БП₁—for welding current; БП₂—for pressure in the welding zone; БП₃—for welding speed; БП₄—for moving the arc; БП₅—for feeding the welding wire; УМ—power amplifiers; П—drive; ВН—power supply for the arc

SUB CODE: 13/ SUBM DATE: None/ ORIG REF: 002

Card 2/2

ACC NR: AP7004198 SOURCE CODE: UR/0125/67/000/001/0051/0052
 AUTHOR: Kurkumeli, A.A.^(Moscow); Ishchenko, Yu.S.^(Moscow); Dedkov, L.K.^(Moscow); Rybkin, V.P.^(Moscow)

ORG: none

TITLE: S-7B automatic welder

SOURCE: Avtomaticheskaya svarka, no. 1, 1967, 51-52

TOPIC TAGS: tube welding, arc welding, TIG welding, butt welding, automatic welding/S-7B welder

ABSTRACT:

The S-7B automatic welder for TIG welding tubes 8—26 mm in diameter with a wall thickness of 0.5—2.0 mm without filler wire has been built. The welder is 215 mm high and 110 mm long, the welding head weighs 2 kg, and the radius of the rotating parts is 40 mm. The small size and weight make it possible to use the welder in restricted locations without supports for the tubes being joined. The welder has an attachment for programmed control of the welding speed from 10 to 40 m/hr, or of the welding current up to 100 amp. The joints are assembled by means of a centrator, without tacking, and are welded without filler wire and without leveling the tube end faces. Orig. art. has: 3 figures and 1 table. [MS]

SUB CODE: 13/ SUBM DATE: 30May66/ ATD PRESS: 5115

Card 1/1 UDC: 621.791.8.03

<p>13HCHENKO, Z-A.</p> <p>CA</p>		<p>Determination of chromium in steel by the persulfate method without the use of silver nitrate. Z. A. Ishchenko. <i>Zavodskaya Lab.</i> 11, 470-1(1945).—Add 50 ml. of the mixt. H_2SO_4 (1:1) 330 ml. + 85% H_3PO_4 80 ml. + water 600 ml. to 2 g. of steel contg. less than 1% of Cr (or to 1 g. of steel contg. 1-7% of Cr, or to 0.5 g. of steel contg. 7-15% of Cr, or to 0.2 g. of steel contg. more than 15% of Cr) in a 500-ml. round-bottom flask, cover the flask with a funnel, and dissolve the sample by heating moderately over a flame. Oxidize with HNO_3 (1:40) until the reaction subsides, evaporate until SO_3 vapors appear in abundance, cool, dil. with 350 ml. of distd. water, add 30 ml. of 20% $(NH_4)_2S_2O_8$, and boil until Cr and Mn are oxidized and $S_2O_8^{2-}$ is decomposed. Add 10 ml. of KCl, boil for approx. 5 min. until the red color disappears, cool, add a measured excess of Mohr's salt until a bright green color appears, and titrate the excess Mohr's salt with 0.1 N $KMnO_4$ until the pink color persists. Steel contg. no W can be dissolved in 50 ml. of H_2SO_4 (1:3). W. R. H.</p>
<p>ATM-11A METALLURGICAL LITERATURE CLASSIFICATION</p>		<p>62-110, 111, 112</p>
<p>100000 01</p>		<p>000000 000</p>

Isachenko, Z.F.

, USSR/General Biology - Individual Development.

B-4

Abs Jour : Ref Zhur - Biol., No 4, 1958, 14397

Author : Isachenko, Z.F.

Inst :

Title : Methodology of Transplanting Nonfertilized Ovicells and Zygotes in Laboratory Mammals.

Orig Pub : Uch. zap. Leningr. gos. ped. in-ta, 1955, 110, 59-65

Abstract : A receiver was constructed which permits withdrawal and replantation of nonfertilized ovaries and zygotes, and also their study under the microscope in vitro. The receiver permits the obtaining of ovaries from rabbits without removal of the oviduct from the organism. Optimum timing for transplanting non-fertilized rabbits' ovaries and zygotes is given. In the spring-summer season ovulation in rabbits occurs 10-12 hours after mating, during the morning hours. In the fall-winter season, follicular rupture may be delayed up to 24 hours after

Card 1/2

Card 2/2

CHOGOSHVILI, N.Ye. [deceased], kand.med.nauk, MECHAYEVA, T.I., kand.med.nauk
ISHCHENKO, Z.G., kand.med.nauk,

Status of the bone marrow and peripheral blood in radiotherapy of malignant tumors. Vest.rent. i rad. 33 no.4:84-86 J1-Ag '58 (MIRA 11:8)

1. Iz radiologicheskogo otdela (zav. - prof. A.V. Koslova) i gematologicheskoy laboratorii (zav. - kand.med.nauk N.Ye. Chogoshvili [deceased] Gosudarstvennogo nauchno-issledovatel'skogo instituta rentgenologii i radiologii Ministerstva zdoravookhraneniya RSFSR (dir. - dots. I.G. Lagunova).

(NEOPLASMS, ther.

radiother., eff. on bone marrow & peripheral blood (Rus))

(RADIOTHERAPY, in various dis.

cancer, eff. on bone marrow & peripheral blood (Rus))

(BONE MARROW, eff. of radiations on
radiother. in cancer (Rus))

(BLOOD, eff. of radiations on
radiother. on peripheral blood in cancer (Rus))

USSR/Microbiology - Medical and Veterinary.

F-4

Abs Jour : Ref Zhur - Biologiya, No 7, 1957, 26406

Author : Ishchenko-Linnik, K.M., Khotimaskaya, B.Z., Parkhomenko,
L.I., Savitskaya, E.K.

Inst : Kharkov Scientific Research Institute of Vaccines and
Sera

Title : The Etiological Structure of Dysentery

Orig Pub : Sb. tr. Kahr'kovsk. n.-i. in-ta vaktsin i syvorotok,
1955, 22, 7-12

Abst : Studies conducted in 1948-1952 revealed the growth of
implantability of dysentery bacteria among dysentery
patients, convalescents, and exposed individuals. In
1950-1952, Grigoryev-Shig bacteria were entirely ab-
sent, while the proportion of Sonne bacteria increased
from 2% in 1948 to 23% in 1952. The proportion of Flex-
ner bacteria fell from 86.3% in 1948 to 59.2-68% in
1952. The type distribution among Flexner bacteria

Card 1/2

USSR/Microbiology - Medical and Veterinary.

Abs Jour : Ref Zhur - Biologiya, No 7, 1957, 26406

F-4

showed no changes, and V and W serotypes predominated. An increase in the implantability of Newcastle bacteria is noted. A decrease in the implantability of Flexner bacteria in summer and autumn months is noted, accompanied by a growth of the transmissibility of Sonne bacteria. Chronic dysentery patients give evidence of Sonne bacteria 3 times less frequently than acute cases. This fact suggests a dominant role of Flexner bacteria in the development of acute forms.

Card 2/2

Card 1/1

ISHCHENKO-LENNIK, E. M.; KHOTMSKAYA, B. Z.; DERKACH, V. S.;
VOLVICH, N. I.; BELAYA, O. S.; ZLATOPOL'SKAYA, R. D.

"Combined treatment of children suffering from chronic dysentery."

Report submitted at the 13th All-Union Congress of Hygienists,
Epidemiologists and Infectionists. 1959

GRES'-EDML'MAN, B.Ye.; VEYTSMAN, R.Ye.; BMLAYA, O.S.; OLEYNIKOVA, Ye.A.;
YEMEL'YANOVA, O.I.; ISHCHENKO-LINNIK, K.M.; VEL'VOVSKAYA, R.I.;
RUMYANTSEVA, I.V.

Study of an outbreak of toxicoseptic diseases caused by
Escherichia coli type O III. Zhur.mikrobiol.epid. i immun.
30 no.5:145 My '59. (MIRA 12:9)

1. Iz Khar'kovskogo instituta vaktsin i syvorotok imeni Michni-
kova i Khar'kovskogo instituta okhrany materinstva i detstva.
(INTESTINES--DISEASES)

808/2973

Сов. эб. библия по Луи де Сетански, Биб, 1959

body lymphatic system; several, sometimes as many as 100 lymphatic nodules; nodules of the 6th Confluence; Males, 14-18 mm. long, 1.5-2.0 mm. wide. 1st p. 2,000 copies printed. IN STOCK, 1960.

Sponsoring Agency: Abundantya Bank Belorusskoy SSSR, Institut Filial.

General Ed.: N. A. Zaslavskii; Ed.: L. Timofeyev; Tech. Ed.: N. Glazov.

PURPOSE: This collection of articles is intended for chemists and physicists interested in molecular immiscence, and for scientists generally concerned with applications of this and related phenomena to research in the life sciences.

[illegible]

Fedilevich, M. M. Fluorescence Method and Device for the Analysis of Water-Oil Emulsions

5

Reich, A. B., E. Reichle, L. D. Emery, and M. J. Reichle (1972) *Kyriogeo zeeda* "Tresny Wislitschil," *Klyriogeo walwale* (1972 of the Klyri Plant "Tresny Reichle," Klyri University)).

90

Baron, H. L. (Traditionally macromolecular-scientist; "My latest hobby is programming" (Student Scientist's Research Institute of the Cable Industry)). Investigates the Limiting-Case Method of the Distribution of Liquids in Fibers.

3

[illegible]

8

Assel'skiy, V. D., [Kishinevskiy gosudarstvennyy meditsinskii institut (Kishinov State Medical Institute)].
Fundamentalno-Mirovaya Analizy of the Cancer

10

Zakomirnyy, A. P., and K. M. Tschentso-Tsintik. Study by the Luminescence Microscopy Method of the Morphology of Certain Sporogenous and Asporogenous Bacteria.

225

Rudnikh, Ye. M., I. [Institute pitaniya ANU SSSR (Institute of Nutrition of the Academy of Medical Sciences of the USSR)]. Experimental Use of Luminescence Microscopy in Mycology

114

Card 8/10

ISHCHENKO- UDALOVA, N.F.

Diagnostic value of X-ray photographs of the pelvis and the
hip joint in the sacrotrochanterian projection. Trudy Ukr.
nauch.-issl. inst. ortop. i travm. no.15:59-64 '69
(MIRA 16:12)

1. Iz Sverdlovskogo nauchno-issledovatel'skogo instituta vos-
stanovitel'noy khirurgii, travmatologii i ortopedii.

BUTOMA, B.Ye.; YEGOROV, M.Ye.; DEREVIANKO, Yu.G.; KHABAKHPASHEV, A.A.;
BAKAYEV, V.G.; ISHKOV, A.A.; KOLESNICHENKO, N.S.; KAMENTSEV, V.M.;
GORSHKOV, S.G.; KASATONOV, M.A.; ISHCHENKOV, N.V.; AFANAS'YEV, S.A.;
TITOV, G.A.; LARIONOV, M.F.

Boris Evgen'evich Klopotov; obituary. Sudostroenie 30
no.11:81 '64. (MIRA 18:3)

GARNISH, A.M.; SHAFRANSKIY, L.M.; DANILOVA, A.G.; KUZ'MINA, V.A.; Prinimali
uchastiye: ZVEZDINA, E.A.; ISHCHERIKOVA, G.A.

Obtaining acrolein from a propane-propylene fraction. Nefteper. 1
neftekhim. no.10:26-28 '63. (MIRA 17:2)

1. Novokuybyshevskiy filial Nauchno-issledovatel'skogo instituta
sinteticheskikh spirtov.

ISHCHUK, I.A.

Special characteristics in the design of mine surface buildings.
Trudy Unipromedi no.2:187-200 '57. (MIRA 11:11)
(Mine building) (Mining engineering) (Structures, Theory of)

ISHCHUK, I. ^A., nauchnyy sotrudnik; KUZNETSOV, G., nauchnyy sotrudnik

Water injection into the coal seam. Mast. ugl. 8 no.7:8 J1 '59.
(MIRA 12:10)

1. Institut gornogo dela AN SSSR.
(Coal mines and mining) (Mine dusts)

ISHCHUK, I.A., inzh.; RABINOVICH, I.F., inzh.

Construction elements of copper furnaces. Prom.stroi. 38 no.2:
53 '60. (MIRA 13:5)

1. Unipromed:

(Copper industry--Equipment and supplies)
(Precast concrete construction)

ISHCHUK, I.A.

Efficient designs of yards for stockpiling ore. Shakht. stroi.
4 no.3:6-8 Mr '60. (MIRA 13:11)

1. Ural'skiy nauchno-issledovatel'skiy i proyektnyy institut
mednoy promyshlennosti.
(Ore handling)

ISHCHUK, I.A., inzh.; RABINOVICH, I.F., inzh.

Tower headframe for multirope hoisting units. Shakht. stroi.
4 no. 6:13-14 Je '60. (MIRA 13:11)

1. Ural'skiy nauchno-issledovatel'skiy i proyektnyy institut
mednoy promyshlennosti.
(Mine hoisting)

ISHCHUK, I.G., gornyy inzh.; MAZUROV, V.A., kand.tekhn.nauk

Effectiveness of loosening coal blocks and controlling dust by means
of water infusion into the seam in stoping operations. Ugol' 35
no.8:43-47 Ag '60. (MIRA 13:9)

(Stoping (Mining))

ISHCHUK, I.G., inzh.

The GAR-2 hydraulic thrust with automatic thrust. Bezop.truda
v prom. 5 no.10:32 0 '61. (MIRA 14:10)

1. Institut gornogo dela im. A.A. Skochinskogo AN SSSR.
(Hydraulic mining--Equipment and supply)

ISHCHUK, I.G.

Effectiveness of injecting water into a seam under high pressure.
Bor'ba s sil. 5:51+60 '62. (MIRA 16:5)

1. Institut gornogo dela imeni A.A.Skochinskogo.
(Mine dusts—Prevention)

NIKONOV, G.P., kand.tekhn.nauk; ISHCHUK, I.G., kand.tekhn.nauk

Estimating the fracturability of coal by a hydraulic giant jet.
Ugol' 40 no.1:27-31 Ja '65. (MIRA 18:4)

1. Institut gornogo dela im. A.A.Skochinskogo.

KUZ'MICH, I.A., kand.tekhn.nauk; ISHCHUK, I.G., kand.tekhn.nauk; KUZNETSOV, G.I.,
inzh.

Weakening the coal massif is a means of increasing the efficiency
of hydraulic mining. Ugol' 40 no.3:34-36 Mr '65.

(MIRA 18:4)

1. Institut gornogo dela im. A.A.Skochinskogo.

ISHCHUK, Yu.L.; STEPANYANTS, S.A.; ISHCHUK, L.P.

Lubricating grease for conveying and dumping bridges (the
lubricant "OM" VTU TSMZ-5 No.01-60). Trudy BOMZ no.1:50-53
'63. (MIRA 16:6)

(Lubrication and lubricants)

2

03611-05 040111 LPP(1)/T Pr-4 DJ/RM

ACCESSION NR: AP5011691

UR/0065/65/000/005/0045/0049
665.59

AUTHORS: Sinitsyn, V. V.; Ishchuk, Yu. L.; Nakonechna, M. B.; Molosyuk, R. G.;
Ishchuk, L. P.; Prokepchuk, V. A.; Umanskaya, O. I. 33
B

TITLE: Solid lubricants thickened with soaps of the mixtures of unsaturated acids and with synthetic (saturated) fatty acids

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 5, 1965, 45-49

TOPIC TAGS: lubricant, solid lubricant, lubricant viscosity, soap, saturated hydrocarbon, acid, unsaturated compound, synthetic hydrocarbon / USs 2 grease, USs automobile grease, SV spindle oil, SV engine oil, DCZhV(TUMKap 250 51) oleic acid

ABSTRACT: The effect of the degree of saturation of the fatty acid radical in calcium soap on the structure and properties of hydrated calcium lubricants was studied in an effort to improve the quality of synthetic lubricants. Because synthetic fatty acids (SFA) contain primarily the saturated carboxylic acids, it was assumed that the addition of unsaturated acids would change drastically the properties of their calcium soaps, resulting in end-products identical in quality

Core 1/4

L 53616-65

ACCESSION NR: AP5011691

to the natural ones. The solid lubricants described here were made from a mixture of 3V spindle oil and SV engine oil with viscosity of 39.2 centistoke at 50°C. DOZhV(TUMKhP 250 51) oleic acid, the SFA fractions No. 3 and (C₁₀-C₁₆),

and their mixtures served as the saponification stock. The SFA composition was determined chromatographically. The samples of lubricants were prepared in an autoclave. The process and the quality evaluation method used in these experiments were described previously by Ya. L. Ishchuk and V. V. Sinitsyn (Khim. i tekhnol. topliv i masel, No. 9, 1964). Characteristic properties of the lubricants and of the materials used are tabulated. The effect of stock composition on the viscosity, bearing strength, and the colloidal stability of the products was studied. It was noted that the thickening capacity increased with the increased degree of unsaturation of the SFA-oleic acid mixtures, and also that the mixtures with a greater degree of unsaturation were required in smaller amounts for the production of lubricants with the given qualities. Properties of the lubricant prepared with soaps containing 15-20% unsaturated acids were inferior. At 70°C they developed a coat of hard gelatinous film and changed their color. Optimal mixtures for the production of synthetic lubricants with proper thermal and oxidation stability and with other properties similar to those of natural oils contained:

Card 2/4

ACCESSION NR: AP5011691

unsaturated acids: 60-75%; SFA: 25-40%. Orig. art. has: 2 tables and 3 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: FP

NO REF SOV: 006

OTHER: 000

Card 3/4

L 65937-00 EWT(m)/I DJ,SD

ACC NR: AT6020588

(A)

SOURCE CODE: UR/0000/65/000/000/0067/0076

AUTHOR: Ishchuk, Yu. L.; Sinitsyn, V. V.; Prokopchuk, V. A.; Nakonechnaya, M. B.;
Man'kovskaya, N. K.; Ishchuk, L. P.; Pobortsev, E. P.

ORG: UkrNIIGiproneft

TITLE: Effect of water concentration and composition of fatty acids on the structure
and properties of synthetic greases //

SOURCE: Naftepererabotka i neftekhimiya (Petroleum refining and petroleum chemistry).
Kiev, Naukova dumka, 1965, 67-76

TOPIC TAGS: fatty acid, grease

ABSTRACT: A series of greases were prepared from the residue of the synthesis of synthetic fatty acids (acid number 103 mg KOH/g), C₅-C₉ acids (280 mg KOH/g), and acid water (248 mg KOH/g); the dispersion medium was a mixture of Z spindle oil and S machine oil. This composition corresponds to that of commercial synthetic grease. It was found that a change in the water content of the greases in the range of 1 to 5% does not affect their volume mechanical properties or structure, indicating that it is desirable to raise the water content of such greases to 4-5%. The structure of hydrated calcium lubricants prepared from soaps of narrow fractions of heat-treated and distilled synthetic fatty acids and their mixtures differs from the structure of fatty and synthetic greases in that it consists of rod-shaped, petal-shaped, and flaky soap

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L 145237-66

ACC NR: AT6020588

0

crystallites. The greatest thickening capacity is displayed by C₁₆-C₂₀ acids with an average molecular weight of 286-300 and a purity of the fraction of no less than 90-95%. A wide boiling fraction of C₁₃-C₂₂ acids with a purity of no less than 98% is recommended for practical application and for producing high-quality synthetic grease. Orig. art. has: 5 figures and 4 tables.

SUB CODE: 11/ SUBM DATE: 01Dec65/ ORIG REF: 007

LS

Card 2/2

PROKHORENKO, K.K.; VASIL'YEV, N.Ye.; ISHCHUK, N.Ya.; VERKHOVTSSEV, E.V.

Reducing nonmetallic inclusions in roller-bearing steel. Vop.
proizv.stali no.7:94-116 '60. (MIRA 13:8)
(Steel--Defects)
(Bearing metals--Defects)
(Nonmetallic materials)

S/137/61/000/011/027/123
A060/A101

AUTHORS: Prokhorenko, K.K., Ishchuk, N.Ya., Vvedenskiy, V.S., Vasil'yev, N. Ye., Verkhovtsev, E.V.

TITLE: Reduction of the contamination of electric steel by fine cracks and non-metallic impurities

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 53, abstract 11V305 (V sb. "Vopr. proiz-va stali", no. 8, Kiyev, AN USSR, 1961, 55 - 69)

TEXT: Steel 30XH 2MFA (30KhN2MFA) is smelted in 20-ton arc furnaces and is cast in 2-ton ingots. In connection with the fact that this steel is sensitive to fine cracks, a study was made of the influence of the reducing method upon formation of fine cracks, its nonmetallic impurity content and its mechanical characteristics. The following variants of the reduction method were tried out: diffusion reduction by 75% Fe-Si with the admixture of 0.5 kg Al per ton at the end of the heat; the same but with Al added before the admixture of Fe-Cr; "precipitation" reduction by 45% Fe-Si and 0.5 kg Al per ton at the end of the heat; the same with 1.5 kg Si-Cd per ton in the ladle; reduction of 45% Fe-

Card 1/2

ISHCHUK, N.Ya., kand. tekhn. nauk; PROKHORENKO, K.K., kand. tekhn. nauk; YEMEL'YANENKO, Yu.G., inzh.

Using exothermic mixtures to obtain slag during steel pouring. Met. i gornorud. prom. no.5:72-75 S-0 '63.

(MIRA 16:11)

1. Institut ispol'zovaniya gaza AN UkrSSR.

S/137/61/000/012/021/149
A006/A101

AUTHORS: Prokhorenko, K. K., Ishohuk, N. Ya., Vasil'yev, N. Ye.

TITLE: Distribution of non-metallic impurities in ball bearing steel ingots

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 12, 1961, 59, abstract
12V359 (V sb. "Vopr. proizv-va stali", no. 8, Kiyev, AN UkrSSR,
1961, 70 - 77)

TEXT: To study the distribution of non-metallic impurities, 3 ingots weighing 700, 2,000 and 3,000 kg were syphon-cast from metal of one heat. The steel was melted in a 20-ton electric furnace. Diffusion deoxidation of the metal was performed with low-carbide slag which was converted into white slag at the end of the reduction period. The metal was finally deoxidized with Al (450 g/t). During the teeming of the heat into the ladle the metal was mixed with the slag. The composition of the steel in % was: C 1.0, Mn 0.34, Si 0.28, S 0.01, P 0.014, Cr 1.3. Plates were produced by longitudinal axial cutting of the cast ingots. After polishing the plates, imprints were taken for S determination and their surfaces were subjected to deep etching. Specimens of the plates were subjected to metallographic investigations of non-metallic impurities, electrolytic dissolving

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Distribution of non-metallic impurities...

S/137/61/000/012/021/149
A006/A101

and determinations of chemical heterogeneity. Specimens and samples were taken off the crust zone, the zone of columnar and equiaxial crystals, and along the ingot axis. Along the ingot height samples were taken every 200 mm. It was established that non-uniform contamination of the steel by non-metallic impurities was due to the heterogeneous macrostructure of the ingots. The middle and lower portion of the ingots where the macrostructure is worst, were most contaminated with non-metallic impurities. A direct dependence was established between the extent of non-metallic impurities and the ingot weight, but no such dependence was revealed for the content and the area of impurities. ✓

P. Arsent'yev

[Abstracter's note: Complete translation]

Card 2/2

ISHCHUK, N.Ya., kand.tekhn.nauk; PROKHORENKO, K.K., inzh.

Accelerating the making of electric steel. Met. i gornorud.
prom. no.2:11-14 Mr-Ap '62. (MIRA 15:11)

1. Institut ispol'zovaniya gaza AN UkrSSR.
(Steel--Electrometallurgy)

DOBROKHOTOV, N.N., akademik [deceased]; GREBEN', K.A.; KONYUKH,
V.Ya.; POKOTILO, Ye.P.; KOBEZA, I.I.; GOL'DENBERG, I.B.;
PROKHORENKO, K.K.; ISHCHUK, N.Ya.; KHAN, B.Kh.;

[Steel production in open-hearth furnaces] Martenovskoe pro-
izvodstvo stali. Moskva, Izd-vo "Metallurgiya," 1964. 239 p.
(MIRA 17:6)

1. Akademiya nauk Ukr.SSR (for DobrokhotoV).

PROKHORENKO, Kim Kondrat'yevich; VERKHOVTSEV, Emil' Vladimirovich;
BAKUMENKO, Sergev Panteleyevich; VASIL'YEV, Nikolay
Yegorovich; ISHCHUK, Nikolay Yakovlevich; FADEYEV, Ivan
Gavrilovich; NOSOV, Viktor Aleksandrovich; SENENENKO, Petr
Pimonovich; ISUPOV, Vasil'y Fedorovich

[Making and pouring quality steels] Vyplavka i razlivka ka-
chestvennykh stalei. Moskva, Izd-vo Metallurgiya, 1964.
200 p. (MIRA 17:8)

L 20086-65 EWT(m)/EWP(t)/EWP(b) JD/MLK

ACCESSION NR AM1049548

BOOK EXPLOITATION

S/ 187/

Prokhorenko, Kim Kondrat'evich; Verkhovtsev, Emil' Vladimirovich; Rakumenko, Sergey Panteleyevich; Vasil'yev, Nikolay Yeforovich; Ishchuk, Nikolay Yakovlevich; Faderov, Ivan Gavrilovich; Nosov, Viktor Alekseevich; Serenenko, Petr Pimenovich; Isakov, Gasily Fedorovich

Melting and pouring of quality steels (Vyplavka i razlivka kachestvennykh staley), Moscow, Izd-vo "Metallurgiya", 1964, 200 p. illus., biblio. Errata slip inserted. 2,450 copies printed.

TOPIC TAGS: quality steel, steel teeming, steel melting, metallurgical furnace

PURPOSE AND COVERAGE: This book reports on the results of work on improving the technology of melting, deoxidation, and teeming of quality steels in electric arc, acid and basic open-hearth furnaces conducted at the Izhevsk Metallurgical Plant and the Saroyk Metallurgical Combine. Great attention is given to description of the measures to reduce contamination with nonmetallic inclusions of ball bearing and structural steels, presentation of material on the effectiveness of teeming steel under a liquid slag, and to increasing the output of sound metal from the ingots due to the use of various methods of heating their hot top. The results of using rare earth elements for deoxidation and modification of steel are given. Card 1/2

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ACCESSION NR AM4049548

The book is intended for engineers and technicians working in the production of quality steels and can also be useful to students of higher educational institutions.

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Ch. II. Technology of melting steel in basic open-hearth furnaces -- 61

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Ch. VII. Experience in the use of rare earth elements to improve the quality of steels -- 182

SUB CODE: MM

OTHER: 003

SUBMITTED: 25Apr64

NR REF SOV: 044

Card 2/2

KHAN, Boris Khononovich, kand. tekhn. nauk; ISHCHUK, Nikolay
Yakovlevich, kand. tekhn. nauk; DOBROKHOTOV, N.N.,
akademik, red.

[Deoxidation, degassing and alloying of steel] Raskislenie,
degazatsiia legirovanie stali. Izd.2., dop. i perer. Mo-
skva, Metallurgiya, 1965. 253 p. (MIRA 18:4)

1. Akademiya nauk Ukr.SSR (for Dobrokhotoev).

L 5112-15 EWT(m)/EWT(a)/EWT(b) JD

ACCESSION NR: AP5010907

K/0286/65/000/007/0095/0096

AUTHOR: Nosov, V. A.; Isenok, N. Ya.; Isupov, V. F.; Prokhorenko, K. S.; Sukhman, L. Ya.; Tagolenko, V. V.

TITLE: Exothermic mixture for producing synthetic slag. Class 31, No 169761

SOURCE: Izvestiya i izobreteniy i tovarnykh znakov, no. 7, 1965, 95-96

TOPIC: synthetic slag, synthetic slag mixture

ABSTRACT: This Author Certificate introduces an exothermic slag-forming mixture which is added into ingot molds. To improve the strength of ingots, the mixture consists of 2.0—2.5% magnesium powder, 1—1.5% calcium silicate powder, 13—18% aluminum powder, 7—11% iron powder, 15—20% oxidized manganese ore or cinder, 18—25% fluorite, 12—20% silicate, and 8—14% blast-furnace slag. [AZ]

ASSOCIATION: none

SUBMITTED: 28May62

ENCL: 00

SUB CODE: MM

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4006

Card 1/1

ISHCHUK, N.Ya.(Kiyev); PROKHORENKO, K.K. (Kiyev)

Determining aluminum consumption for the deoxidation of steel.
Izv. AN SSSR. Met. no.1:59-61 Ja-F '65. (MIRA 18:5)

PROKHORENKO, K.K.; ISHCHUK, N.Ya.

Seventh Conference on the Physical and Chemical Principles
of Steelmaking. Met. i gorosud. prom. no.6:78 N.D. '65.
(MIRA 18:12)

L 27615-66 EWI(m)/EWA(d)/ENP(t)/ETI IJP(c) JD
ACC NR: AP6018478

SOURCE CODE: UR/0133/66/000/003/0219/0223

AUTHOR: Nosov, V. A. (Engineer); Ishbikh, N. Ya. (Candidate of technical sciences);
Isupov, V. F. (Engineer); Prokhorenko, K. K. (Candidate of technical sciences);
Sul'dman, L. Ya. (Engineer); Glagolanko, V. V. (Engineer); Solyanikov, B. G. (Engineer)

ORG: Metallurgical Combine im. A.K. Serov (Metallurgicheskii kombinat); Institute of
Casting Problems, AN SSSR (Institut problem lit'ya AN SSSR)

TITLE: Pouring steel under molten slag produced by combustion of an exothermic
mixture

SOURCE: Stal', no. 3, 1966, 219-223

TOPIC TAGS: cast steel, slag, metal pipe/38KhMYuA cast steel, 12KhLMF cast steel,
20P cast steel, 15GS cast steel, 38KhA cast steel, 38KhS cast steel, 40-45 KhN cast
steel, ShKh15 cast steel, 35KhGSA cast steel, 55S2 cast steel, 60S2 cast steel,
38KhGS cast steel

ABSTRACT: The paper is a report on a method developed in 1962 at the Metal-
lurgical Combine imeni A. K. Serov for pouring steel under molten slag produced
directly in the molds by combustion of an exothermic mixture. The first type
of steel cast by this method was 38KhMYuA. The method is presently being used
for pouring the following types of steel: 12KhLMF, 20P, 15GS, 38KhA, 38KhS,
40-45KhN, ShKh15, 35KhGSA, 55S2, 60S2, and 38KhGS. The exothermic mixture has
the following composition (wt %): magnesium powder -- 2.5; aluminum powder --
UDC: 669.18.046.558.7

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ACC NR: AP6018478

4.5; sodium nitrate -- 11; oxidized manganese ore -- 20; fluorite -- 20; impure sodium disilicate -- 20; blast-furnace slag -- 12. It is shown that the production of liquid slag directly in the molds by combustion of this exothermic mixture gives the simplest means for casting under molten slag in mass production conditions. Scrap of finished products (blanks) are considerably reduced for surface defects when steel is poured under slag (particularly for 38KhMnFA steel where rejects are reduced by a factor of 32.5). This pouring method also reduces the work required for trimming blanks which increases the yield of bar stock for 38KhMnFA and 38KhS steel by 10 and 15% respectively. When metal poured under slag is used for pipe production, the pierceability of the blanks is improved and mechanical damage to the outside and inside surfaces is sharply reduced. A. A. Chupurnova participated in the work. Orig art. has 5 tables and 3 figures. JPRS

SUB CODE: 11, 13 / SUBM DATE: none / ORIG REF: 003

Card 2/2 CC

AGEYKIN, V.S.; BARTNOVSKIY, O.A.; BIBIK, V.F.; GORODETSKIY, D.A.;
ISHCHUK, V.A.; KORCHEVOY, Yu.P.; NAUMOVETS, A.G.;
PANCHENKO, O.A.

Eleventh Conference on the Physical Principles of Cathode
Electronics. Radiotekh. i elektron. 9 no.6:1099-1113 Je '64.
(MIRA 17:7)